

ATTACHMENT ?

Form Of Energy Audit Agreement

1. Cover

A. The cover page should provide the following information:

- 1) The words "Energy study for (the facility's name)"
- 2) Name(s) and address(es) of the building(s) analyzed in the study
- 3) Name of the firm producing study
- 4) Date

2. Table of Contents

Must be complete with page numbers and descriptive title for each section, table, exhibit, attachment, etc. Tables, charts, attachments, and exhibits should be listed separately by number, title and page number.

3. Page Numbers and Revisions

Each page should be numbered and dated. Should revisions be requested, a listing of original pages and replacement pages should be provided. Each revised page should indicate at bottom right corner "Revised--date."

4. Executive Summary

A short (one or two page) narrative summary of the project, including discussion of the project's energy savings and financing.

A. The following tables must be included:

- 1) A summary of ECM measures for the project ([Table 1](#));
- 2) A summary of the project cost ([Table 2](#));
- 3) Maintenance services provided by equipment covered, scope, frequency ([Table 3](#));
- 4) A cost savings calculation ([Table 4](#)); and
- 5) A payment schedule ([Table 5](#))

B. Suggested language for savings guarantee.

"The ESCO guarantees that in each year of the Term following Substantial Completion, the Customer will realize energy savings of at least _____kWh (therms, gallons, etc.). At current rates, these energy savings have a value of _____Dollars (\$_____)."

Technical Audit Agreement

Preamble

This Technical Audit Agreement ("Agreement") is made and entered into this _____, 20__ by and between _____ ("ESCO") and _____ ("Awarding Authority") for the purpose of identifying, analyzing, designing and specifying conservation measures to improve thermal efficiency, conserve energy, conserve water, reduce waste water, and, when specified, generate electrical power at Awarding Authority properties. This Agreement is entered pursuant to a Request for Responses, and any changes thereto, ("RFP/RFQ") issued by the Awarding Authority dated _____, 20__ and ESCO's response to said RFP/RFQ and any revisions thereto ("Response"), said RFP/RFQ and Response incorporated herein by reference. A product of this Agreement shall be a Technical Audit which, together with any and all related drawings, plans and revisions shall become the specifications for work to be performed by the ESCO under a separate Energy Management Services Agreement ("Contract") to be executed *after* the acceptance by the Awarding Authority of the Technical Audit.

1. Price and Terms

A. Agreed Price: As payment for the Technical Audit prepared by the ESCO, the Awarding Authority shall pay ESCO the sum of _____ dollars (\$), ("Agreed Price"), subject to the following conditions:

- 1) The Technical Audit is accepted by the Awarding Authority and not rejected.
- 2) A Contract is executed between the ESCO and the Awarding Authority.

The Awarding Authority reserves the right to reject the Technical Audit if a) utility savings projected in the Technical Audit are less than 85% of the savings projected in the ESCO's Response to the RFP, b) the capital budget for the conservation measures projected in the Technical Audit is significantly higher than the capital budget projected in the ESCO's response to the RFP, c) the economic benefit to the Awarding Authority is materially diminished by some combination of lowered projected savings and higher capital budget determined in the Technical Audit as compared to the savings and capital budget, or, d) the Awarding Authority, upon review of the Technical Audit, finds it deficient or unacceptable provided ESCO shall have fifteen (15) business days to revise the Technical Audit to the satisfaction of the Authority.

To the extent that materials and supplies are used or incorporated in the performance of this Agreement, the ESCO is considered an exempt purchaser under the Massachusetts Sales Act, Chapter 14 of the Acts of 1966. ESCO shall be responsible for paying all other taxes and tariffs of any sort related to the work performed.

B. Payment Terms: The Awarding Authority shall pay the ESCO the Agreed Price upon closing the financing or lease upon which the Contract is conditional. The Agreed Price shall be part of the Contract Price as described in the Contract.

C. Services Subsequent to Acceptance of Technical Audit: The Agreed Price is the final price for all work related to the Technical Audit, including revisions thereto subsequent to acceptance of the Technical Audit, revisions required during the course of carrying out the work and monitoring as described in the Contract, and revisions resulting from Contract amendments. The Agreed Price may

be modified for performing professional services during the term of the Contract that are not otherwise required or that could not have been reasonably anticipated under this Agreement.

D. Agreed Price All Inclusive: The Agreed Price is all inclusive of the ESCO's costs and expenses and there are no items subject to reimbursement.

E. Agreement Termination: This Agreement is coterminous with the Contract unless otherwise agreed to in writing.

2. Technical Audit Services

A. Time for Performance: Execution and approval by the Authority of this Agreement shall serve as a Notice to Proceed. ESCO shall commence preparation of the Technical Audit in sufficient time to meet the following schedule: *(insert schedule)*

Site visits	As needed and scheduled with Authority
Draft Technical Audit submitted	, 20__
Authority review draft	Within 15 business days of receipt of draft
Technical Audit submitted	Within 15 business days of receipt of review by Authority
Technical Audit accepted or rejected	Within 15 business days of receipt of Technical Audit

The deadline for an acceptable Technical Audit shall be no later than **4:00 PM**, _____, **20__**. After this date, Authority may terminate this Agreement upon written notice to ESCO. All drafts, plans, materials, calculations, specifications and draft Technical Audits shall be retained by the Authority as liquidated damages.

B. Technical Audit Procedures:

1) Purpose

- a) Identify the size, scope and payback of energy conservation measures by a documented analysis of various conservation opportunities as identified in the RFP/RFQ, the ESCO's Response to the RFP/RFQ and as negotiated and listed in Facility Profile
- b) Prepare sufficient design, plans, equipment, material and other detail suitable for use as specifications for work to be performed under the subsequent Contract, and,
- c) Document baseline and projected utility data for use in connection with the performance guarantee of the Contract. Utilities shall refer to all energy and water systems and equipment including but not limited to heating, water heating, water, sewer, illumination and controls associated therewith. The accuracy of the baseline consumption, savings projections and capital budget are of the essence of this Agreement and the subsequent Contract.

2) Provisions

- a) All recommended conservation measures shall meet all applicable current codes including the State Sanitary Code, Plumbing and Fuel Gas Codes, Fire Prevention Regulations, Massachusetts Electrical Code, State Building Code and all other applicable laws, regulations and codes of federal, state, and local town or city government. The ESCO will

not be expected to resolve any existing code violations but shall make a best effort to report to the Authority any such violations if found.

- b) ESCO shall furnish appropriate competent personnel consistent with ESCO's Response to the RFP/RFQ to assure professional and technical accuracy and to obviate a detailed review and checking by the Authority.
- c) ESCO shall conduct and report on detailed site surveys of all Properties listed in Facility Profile. Such surveys shall entail all utilities identified for conservation measures including all energy and water systems. ESCO shall inspect a random sampling of items (e.g. toilets, lamps, or other equipment) in sufficient detail to assure itself of a statistical level of confidence sufficient to undertake and honor the guarantee of the capital costs of the Work and performance of the conservation measures. ESCO shall utilize all available resources such as construction documents, equipment manuals, maintenance records, and interviews of persons familiar with each Property and its operation.
- d) ESCO shall examine all utility data presented in the RFP/RFQ to check for accuracy against actual bills and utility data printouts and to assure all appropriate adjustments as described in the RFP/RFQ in order to confirm that baseline data is accurate and complete.
- e) ESCO shall conduct a detailed Technical Audit of those conservation items listed with the Properties in Facility Profile together with others, which may surface during the preparation of the Technical Audit.
- f) ESCO shall prepare the Technical Audit pursuant to conventions and instructions described in Facility Profile, Special Instructions and consistent with RFP/RFQ.
- g) ESCO shall present a thorough description of each recommended conservation measure including, but not limited to, conceptual summary, equipment and material specifications, plans, schematics or detail sketches as appropriate, cost, useful life, savings in utility consumption and expense, maintenance and operating expenses, assurances that the original design performance shall be maintained throughout the useful life of the equipment and systems installed, monitoring requirements, impact, if any, of each measure on the buildings, other building systems and occupants, and payback. This information shall be prepared consistent with the RFP/RFQ and with Facility Profile.
- h) ESCO shall summarize conservation measures that are rejected and state the reasons for rejection. ESCO shall be prepared to provide backup data, calculations and other information as requested by the Authority but need not include this detail in the Technical Audit.
- i) ESCO shall specify "Energy Star" or other comparably rated energy or water efficient products when appropriate. ESCO shall specify products exceeding "Stretch Code" when appropriate.
- j) ESCO shall not specify equipment that will require additional personnel to be hired by the Authority for operation or maintenance. ESCO, to the maximum extent feasible and consistent with the optimization of conservation measures, shall specify similar or comparable equipment of the same manufacturer at each building and Property in order to achieve as much standardization of equipment as possible throughout the Authority.

- k) ESCO shall explore and report alternative utility rate options such as peak or master metering, commodity purchases or other more favorable rate possibilities and ascertain any needed capital improvements and costs and determine the economic and operating feasibility.
- l) ESCO shall prepare a detailed operational plan showing the sequence of operations for the Work to be performed.

C. Existing Conditions

Document the existing conditions of the facility, including the following information itemized for each building in the facility:

- 1) Building physical condition;
 - a) Hours of use or occupancy;
 - b) Area of conditioned space;
 - c) Area of unconditioned space;
 - d) Inventory of energy consuming equipment or systems;
 - e) Energy consuming equipment operating conditions and loads;
 - f) Standards of service and comfort observed (e.g. light levels, ventilation, and temperatures);
and
 - g) Current practices that unnecessarily increase energy use or impact baseline.

3. Energy Conservation Measures (ECM)

A. ECM--Energy Conservation Measure

Provide a narrative description of each proposed cost effective energy conservation measure (ECM) to be installed including:

- 1) The proposed upgrade, replacement, operational change, or maintenance requirement ;
- 2) The interface between the proposed ECM and remaining Authority equipment;
- 3) The impact on remaining Authority equipment (changes in load, run time, etc.);
- 4) Any impact on standards of service and comfort; and
- 5) Complete Table 1 for all measures.
- 6) Describe ECM's analyzed but disqualified under cost effectiveness criteria.

B. General Information

- 1) ECM's should be presented in the order that interactions are considered;
- 2) Energy Management System (EMS) savings must **not** be calculated as a percentage of total energy use. Each process controlled by the EMS should be analyzed separately, and savings associated with that process improvement calculated;
- 3) An ECM summary sheet must be provided for each measure (See Table 2).

4. Energy Savings Proposed

Provide a detailed energy analysis for each ECM proposed, documenting the estimated annual energy savings. Document assumptions on current and proposed equipment operating conditions and energy savings calculations.

A. Computer models

When computer modeling is used, the model and each set of results must be properly documented. Minimum documentation required is:

- 1) Name of the program
- 2) Description of the calculations the program performs
- 3) Table showing the model's calculation of the building's energy consumption for each month of the base year, and actual consumption for those months

5. Facility Support Required

For each ECM proposed, identify any utility interruptions needed and any other facility support that may be required during installation.

6. ECM Installation Schedule

For each ECM provide a proposed implementation schedule. Include the following milestones:

- 1) Design completed;
- 2) Permits;
- 3) Submittals (plans and specifications);
- 4) Equipment/Material acquisition;
- 5) Mobilization;
- 6) Installation;
- 7) Clean up;
- 8) Startup/Testing;
- 9) Final inspection and Notice of Substantial Completion;
- 10) Post installation submittals; and
- 11) Training.

7. Hazardous Waste Disposal Plan

Provide a descriptive hazardous waste disposal plan for the project.

8. Energy Baseline and Savings Measurement¹

The ESCO shall establish and document on a site-specific basis:

- 1) An Energy Baseline, including data, methodology, and variables used to compute it.
- 2) The method it will use to measure energy savings and energy cost savings for each energy type after proposed ECMs have been installed.
- 3) The method it will use to verify installed ECM compliance with requirements of Standards of Service and Comfort ([insert information](#)).
- 4) The method of determining energy savings and compliance with Standards of Service and Comfort annually throughout the contract term.

¹ Must be based on the most recent version of the FEMP M&V Guidelines

- 5) If a computer program or programs will be used to establish the baseline, modify the baseline, or measure savings, furnish the name of the program, the name, address, and phone number of the program developer or supplier, and descriptive literature. The Authority may require ESCO to furnish a properly licensed copy of the program(s) to the Authority for its use in administering the contract, at no cost to the Authority.

9. Description of Maintenance Services and Training

Provide a complete description of the maintenance services ESCO will provide, including schedules. Summarize on Table 3. Describe any training being provided.

10. Pricing and Project Financing

ESCO shall complete Tables 4 through 7. This includes a payment schedule with termination value for each year of the contract.

11. Calculations

- 1) All calculations must be complete and easy to follow. Spreadsheet formats must include a description of the assumptions and calculations.
- 2) Units must be indicated and only so many significant digits as the accuracy of the calculation warrants included.
- 3) Weather data source should be described.
- 4) Calculation details and supporting documentation shall be placed in an Appendix.

12. Utility Rebates

The ESCO shall prepare all applications and process all documents necessitated by rebates offered by the utility company. Any savings generated by rebates shall be credited to the facility's utility bills. If utility rebates will be included as part of the energy study recommendations, it may be necessary for the ESCO to develop a system that reports annual savings by meter and/or account number. ESCOs should contact the local utility for further information.

Table 1
Energy Efficiency Measure Summary

Company Name: _____

Building or Facility Name: _____

(Aggregate data from summary sheets)

ECM No.	Energy Conservation Measure (ECM)	Electricity Savings (kWh/yr.)	Peak Demand Reduction (kW)	Fuel Savings (include units)	Energy Cost Savings (\$/yr.)	Estimated Measure Cost (\$) from Table 2	Estimated Life of Measure (years)	Refer to Page(s)
	Totals							

Table 2
Summary Sheet for ECM Number _____

Building: _____

Name of ECM: _____

1. Description (include quantities, types, sizes, locations, etc.)

a) Existing Conditions: _____

b) Proposed Conditions with ECM: _____

2. Net First Year Energy Savings

Fuel Type (electric, gas, oil)	Fuel Units (kWh, Therms, CCF, KW, gallons)	First Year Fuel Savings (kWh, Therms, CCF, KW, gallons)	Unit Cost for the Fuel	Cost Savings
Totals				

3. Cost Estimate Summary of Measure

Materials \$ _____

Labor \$ _____

Contingency \$ _____

Other (Specify) \$ _____

Total \$ _____

4. Expected useful life: _____ years.

5. The measure interacts with ECM No(s) _____

6. The measure impacts ECM No(s) _____

6. Impact on standards of service and comfort.

Table 3
Maintenance Services
(ESCO-installed, existing facility)

Building (if appropriate): _____

[illegible]

Table 4
Price Formula

For each item, enter the proposed price as a lump sum and as a percentage of construction cost.

4.1	Energy Study Fee	\$ _____			
4.2	Design Services	\$ _____	OR	_____ %	% of Construction Cost
4.3	Construction/Project/ Management Services	\$ _____	OR	_____ %	% of Construction Cost
4.4	General ESCO Overhead and Profit		Overhead	_____ %	% of Construction Cost
			Profit	_____ %	% of Construction Cost
4.5	Commissioning and Initial Training	\$ _____	OR	_____ %	% of Construction Cost
4.6	Interest During Construction	\$ _____	AT	_____ %	
4.7	Bond Fees	\$ _____	OR	_____ %	% of Construction Cost
4.8	Miscellaneous Fees and Permits	\$ _____	OR	_____ %	% of Construction Cost
4.9	Term Financing Interest Rate			_____ %	% of Principal (APR)
4.10	Monitoring, Verification, and Savings Guarantee	\$ _____	OR	_____ %	% of Energy Savings

Table 5
Project Cost

Installed Measure Cost	_____	
Energy Study Cost	_____	
Design Services	_____	
Construction/Project Management Services	_____	
General ESCO Overhead and Profit	_____	
Commissioning and Initial Training	_____	
Interest During Construction	_____	
Bond Fees	_____	
Miscellaneous Fees and Permits	_____	
Other	_____	Specify
Less Utility Rebate (ESCO must guarantee rebate)	_____	
TOTAL Project	_____	

Table 6
Calculation of Cost Savings

Year	Annual Energy Cost Savings {A}	Total Payments {B}	Net Savings ({C}={A}-{B})
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Total			

Table 7
Payment Schedule and Termination Value

Year	Contract Payments	Total Payments
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Total		

<u>Year</u>	Termination Value	Total Payments from Above	
		Date	Amount
1			
2			
3			
4			
5			
6			
7			
8			

Notes: Enter the date and amount of each payment. Show additional payments on another sheet if necessary. "Termination Value" is the lump sum payment required to buy out of the contract and receive title to all equipment in each year. If this option is not proposed in any year(s), indicate by "NA."

Energy Study Report Acceptance Form

The undersigned hereby accepts the content and form of the Energy Study Report.

IN WITNESS WHEREOF, the parties have executed this Form, the _____ day of _
_____, 20____

[ESCO]

[MUNICIPALITY]

Name _____

Name _____

By _____

By _____

Title _____

Title _____

Date _____

Date _____

[MUNICIPAL AGENCY]

Name _____

By _____

Title _____

Date _____

Approved as to Form:

Office of General Counsel